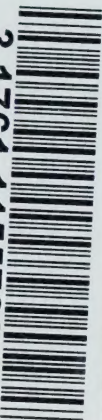


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Canada. Royal Canadian Air  
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Track and field [booklets]  
The Hammer Throw. RCAF  
Pamphlet 81. [rev. ed. 1960]







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# TRACK & FIELD



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The  
**HAMMER  
THROW**

[rev ed. 1960]





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# THE HAMMER THROW

PUBLISHED BY


DIRECTORATE OF PERSONNEL ADMINISTRATION

RECREATION BRANCH

ROYAL CANADIAN AIR FORCE

IN CO-OPERATION WITH

THE DEPARTMENT OF NATIONAL HEALTH & WELFARE



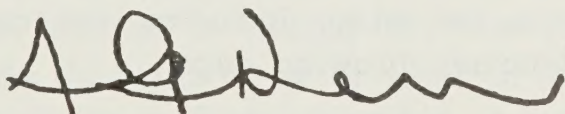
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## FOREWORD

In the Royal Canadian Air Force wholesome and constructive recreation programmes play an important role in the development of individual character and Service efficiency. RCAF station recreation programmes are designed to provide opportunities for participation by all personnel and their families the whole year round.

To assist the Recreation Specialists and the many volunteer leaders on whose services the extent and quality of recreation programmes depend, and to assist participants to improve their skills, the RCAF prepares and distributes special guidance and instructional material concerning the many aspects of recreation. The RCAF series of sports booklets are also intended to assist Service personnel and their families to enrich their leisure time in Service Life by increasing their interest in sports and improving their playing ability within the best rules of sportsmanship.

The Royal Canadian Air Force is indebted to the Department of National Health and Welfare for their co-operation and assistance in the preparation of the Track and Field booklets and to the author, Flight Lieutenant J. B. Kirkpatrick (Supplementary Reserve) who, in his civilian occupation, is Director of the School of Physical Education of a prominent Canadian University.



(J. G. Kerr)

Air Vice Marshal  
for Chief of the Air Staff.

August, 1957



**"The fitter the  
PERFORMER  
the finer the  
PERFORMANCE"**

## **THE HAMMER THROW**

This event, Celtic in origin, was first popularized in Scotland and in Ireland. Hammer Throwing is spectacular, and is satisfying to the participant in that strength and skill are tested to the utmost. It is not, however, an event that is often seen, even at provincial or intercollegiate competitions. Unskilled throwers are seldom sure of their direction, and even skilled throwers can make mistakes. Hence the event is always dangerous to spectators, officials, and other competitors unless complete precautions can be taken, including the construction of a special hammer throwing cage.

In international competition the Americans and Irish have dominated until recently, when some excellent Russian and Scandinavian throwers have been developed. The world record (1955), set by M. Krivonosov of Russia is a mighty 211' 11 $\frac{3}{4}$ ". Canada has produced no thrower of international stature, nor are we likely to do so until facilities for the protection of spectators and others, both in competitions and for practise, can be made available.



# RULES FOR COMPETITION

1. All throws shall be made from a circle 7 feet in diameter (inside measurement).
2. The order in which the competitors take their trials shall be drawn by lot.
3. In all throwing events, each competitor shall be allowed three trials, and the six best shall have three additional trials. No competitor shall be allowed the additional trials unless he shall have registered one fair throw. Each competitor shall be credited with the best of all his throws.
4. If a competitor is entered in both a track and a field event, or in more than one field event taking place simultaneously, the judges may allow the competitor to take his trials in an order different from that decided upon prior to the start of the competition, but not so that any trial is carried forward to a subsequent round. Unless such permission from the judges has been received, a competitor who misses his turn shall not be permitted to take the trial so missed.
5. In all throwing events from a circle a competitor is allowed to touch the inside of the iron band. It shall be a foul throw and not allowed to count, if the competitor after he has stepped into the circle and commenced to make a throw, touches with any part of his body, the circle or the ground outside, or improperly releases the hammer in making any attempt.
6. If the hammer breaks during a throw or while in the air, it shall not count as a throw provided it was made in accordance with the rules. If the competitor thereby loses his equilibrium and commits a foul, it shall not be counted against him.
7. It shall not be considered a foul throw if the head of the hammer touches the ground when the competitor makes the preliminary swings or turns; but if, after having so touched the ground, he stops throwing so

as to begin the throw again, this shall count as a trial throw.

8. The competitor must not leave the circle until the hammer has touched the ground, and he shall then from a standing position, leave the circle from the rear half, which shall be indicated by a chalk line drawn through the centre and extended outside the circle, not less than 30 inches on each side.
9. All throws, to be valid, must fall within the inner edge of the lines marking a sector of  $90^{\circ}$ , the radial lines crossing at the centre of the circle and the ends of which should be marked with metal flags. The sector within which all throws must fall, shall be clearly marked on the ground with lines 2 inches wide, the inner edges of which shall form the sector lines.
10. The measurement of each throw shall be made from the nearest mark made by the fall of the head of the hammer, to the inside of the circumference of the circle along a line from the mark made by the implement to the centre of the circle.
11. A distinctive flag or disc shall be provided to mark the existing Canadian record, and when appropriate, the existing provincial record. A distinctive flag shall be provided also to mark the throws of each competitor.
12. All measurements must be made with a certified steel tape, graduated in centimetres or half inches.
13. Distances, if measured in metres, shall always be recorded to the nearest centimetre below the distance covered, i.e., fractions less than one centimetre must be ignored. Distances, if measured in feet, shall be recorded to the nearest quarter inch, and if over 100 feet, shall be recorded to the nearest half inch below the distance covered, i.e., fractions less than a quarter inch or half inch respectively must be ignored.
14. In measuring, that point of the measuring tape recording the distance achieved must be held by an official at the circle.



15. In the event of a tie, the second best performance of the competitors shall decide the tie. If the tie still remains, the third best, and so on. A record may be established in working off a tie.
16. Only throwing implements provided by the organizers of the meet may be used.
17. Prior to the competition the weight of the hammer must be checked on a governmentally approved balance, and the length of the handle checked with a certified steel tape or bar (see section on Equipment for official weights and measurements).
18. No harness, instrument or device of any kind which can be used as a support when making a throw shall be allowed.
19. When throwing the hammer, ordinary gloves for the protection of the hands are permitted.
20. The maximum allowance for lateral inclination of the runways for throwing events shall be one foot rise or fall per 100 feet of lateral direction, and one foot rise or fall per 1000 feet in the throwing direction.
21. Doping is the employment of drugs with the intention of increasing athletic efficiency by their stimulating action upon muscles or nerves, or by paralyzing the sense of fatigue. Any competitor who uses drugs as defined above shall be suspended from active competition for such period as the registration committee of the A.A.U. of C. shall prescribe, and any person aiding or abetting in the use of drugs shall be permanently excluded from any ground where the rules of the A.A.U. of C. are in force.
22. Competitors must wear clothing which is clean and so designed and worn as not to be objectionable.

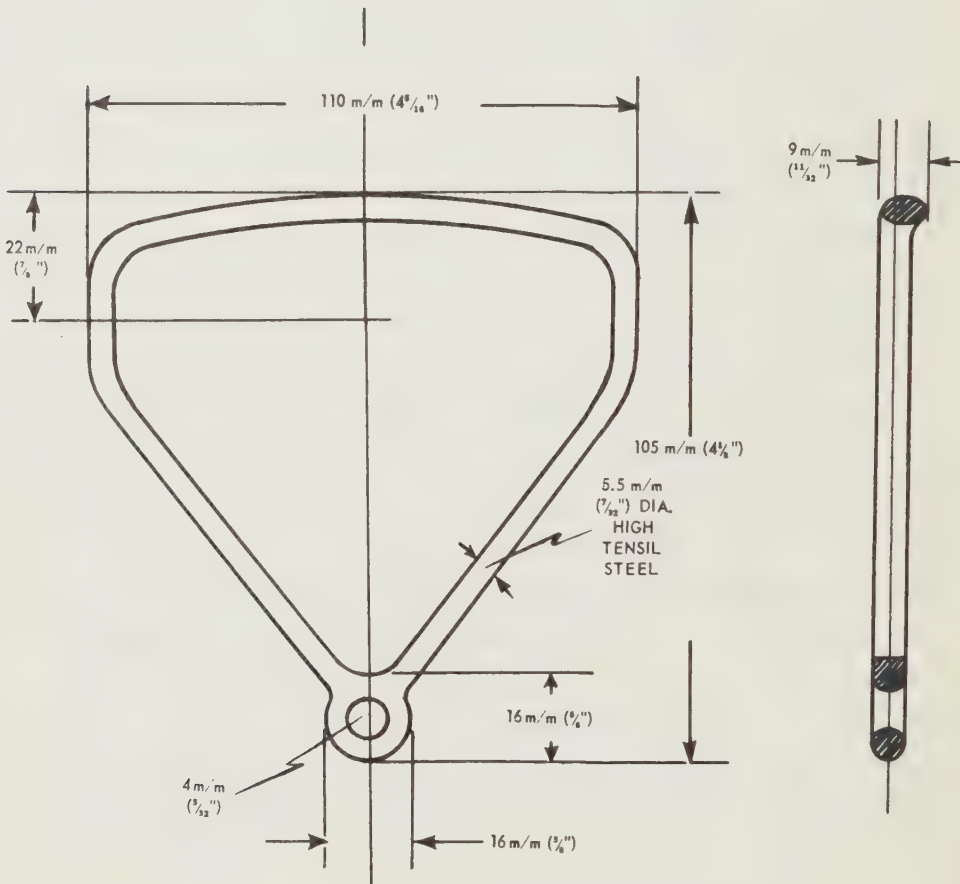
# EQUIPMENT

## The Hammer

**Head** — The head shall be of solid iron, brass or any metal not softer than brass, or a shell of such metal filled with other material. It must be spherical in shape.

**Handle** — The handle shall be a single unbroken and straight length of spring steel wire not less than  $\frac{1}{8}$  inch in diameter, and shall be such that it cannot stretch appreciably while the hammer is being thrown. The handle may be looped at one or both ends as a means of attachment.

**Grip** — The grip may be either of single or double loop construction, but must be rigid and without hinging joints of any kind, and so made that it cannot stretch appreciably while being thrown. It must be attached to the handle in such a manner that it cannot be turned within the loop of the handle to increase the overall length of the hammer.





**Connections** — The handle shall be connected to the head by means of a swivel which may be either plain or ball bearing. The grip shall be connected to the handle by means of a loop. A swivel may not be used

**Weight and length** — The total weight shall be not less than 16 lbs, and the total length not more than 4 feet. Juniors shall use a 12 lb. hammer and the total length shall be not more than 4 feet.

## The Hammer Throwing Cage

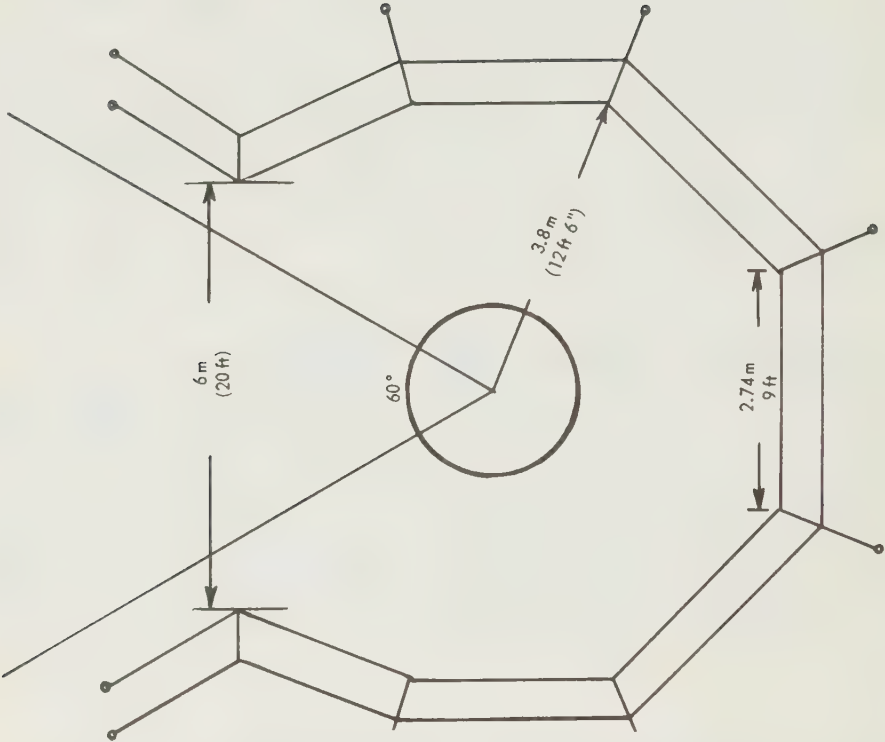
It is strongly recommended that all hammer throws be made from an enclosure or cage to ensure the safety of spectators, officials and competitors. The cage should be U-shaped in plan, the diameter of the bent portion being 27 feet with the opening through which the throw is made 27 feet wide. The height should be not less than 9 feet.

## A Cage Made to the Following Specifications is suggested

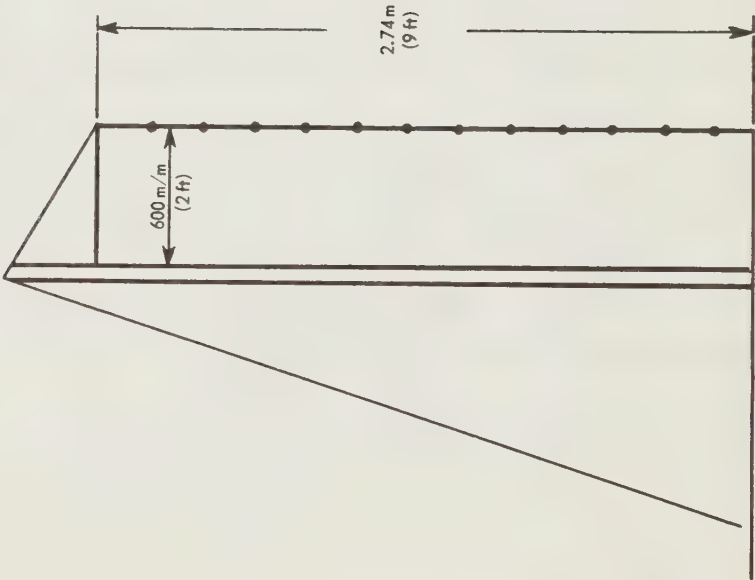
**Framework** — A metal rod 63 feet in length is bent to the shape of the letter U, the radius of the bent portion being 13 feet 6 inches and the width of the open end being 27 feet. The rod is supported in a horizontal plane 9 feet above the ground by metal supports made in the shape of an inverted letter "Y" or by gallows-shaped supports.

**Netting** — A net 63 feet long by 10 feet wide made of cord  $\frac{1}{2}$  inch in circumference with 2 inch meshes is suspended from the rod by tying or preferably lacing with similar cord. To the lower edge of the net resting on the ground 9 sandbags each weighing approximately 30 lbs. are attached at regular intervals.

A—The Cage



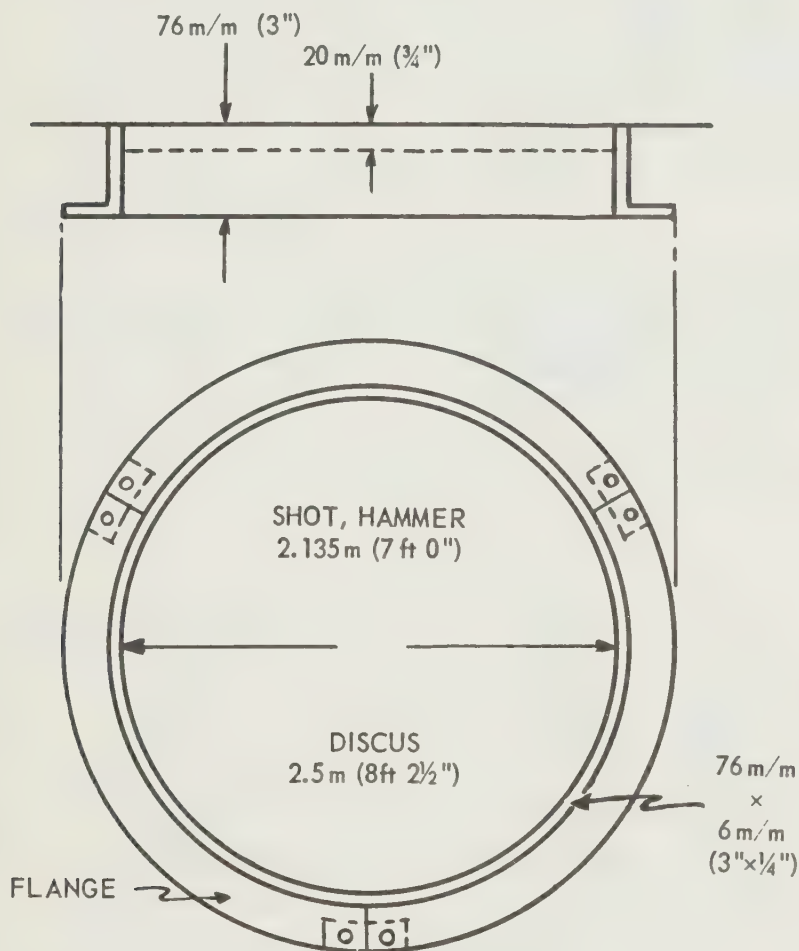
B—The Netting





# The Circle

The circle shall be made of band iron or steel, the top of which shall be flush with the ground outside. The earth or clay in the circle shall be packed hard and firm and  $\frac{3}{4}$  inch lower than outside the circle. The circle shall be 7 feet in diameter (inside measurement), and shall be  $\frac{1}{4}$  inch in thickness and 3 inches in height. The circle shall be painted white.



For rigidity it is recommended that a flange be fitted at the base as shown

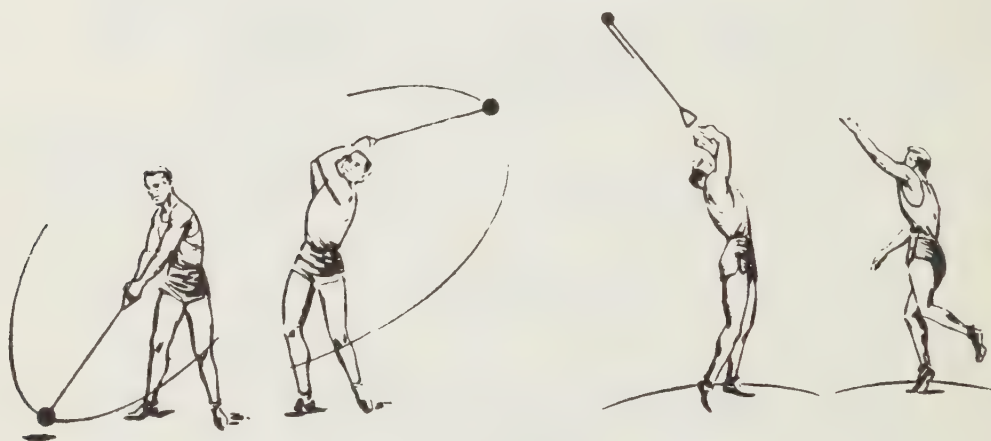
## Sector Flags

The sector flags shall be made entirely of metal. They should be rectangular in shape, measuring approximately 4 inches by 7 inches, and should be mounted on standards  $\frac{5}{16}$  inch in diameter and not less than 36 inches in length.

## Shoes

The most common type of shoes used in hammer throwing is one with six spikes in each sole and two spikes in each heel. This shoe has a stiff counter to give support to the heel spikes. Some athletes prefer to remove all of the spikes but one from the sole of the pivot foot (or from both feet), leaving that one in the centre of the sole. Others prefer not to use spikes at all, but an ordinary running shoe.

The question of shoes seems to be a matter that is best left to individual choice, after experimenting with different kinds of footwear.

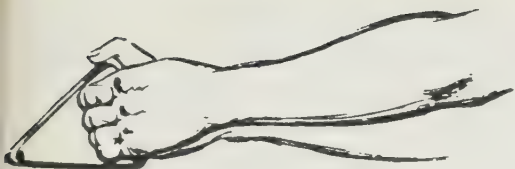


## TECHNIQUES

### The Grasp

The handle is grasped with both hands, as shown in diagram 1 below. The second joint of the fingers on the left hand grasps the handle, and the right hand overlaps the left.





1



2

## Beginning Stance

To begin the throw, the athlete stands at the back of the circle, facing away from the direction of the throw. The feet should be spaced comfortably, with the knees slightly bent and the toes pointing slightly outwards. The hammer should rest on the ground, to the right of the thrower, so that he can begin the swing across the front of his body.

## Preliminary Swings

Several swings of the hammer, taken from the stance described, build up momentum for the turns that follow. The hammer is swung from right to left across the body, and over and behind the thrower's head in a wide circle. The low point of the circle is just a few inches from the ground, approximately in line with the thrower's right foot, and the high point is well behind and above his left shoulder. The trunk is erect, and, while there is some shifting of the body weight the feet do not move from their original position. The weight is more on the left than on the right foot, except at the low point of the swing.

The arms are bent as they move to the left and up as each circle begins, and they straighten as the hammer

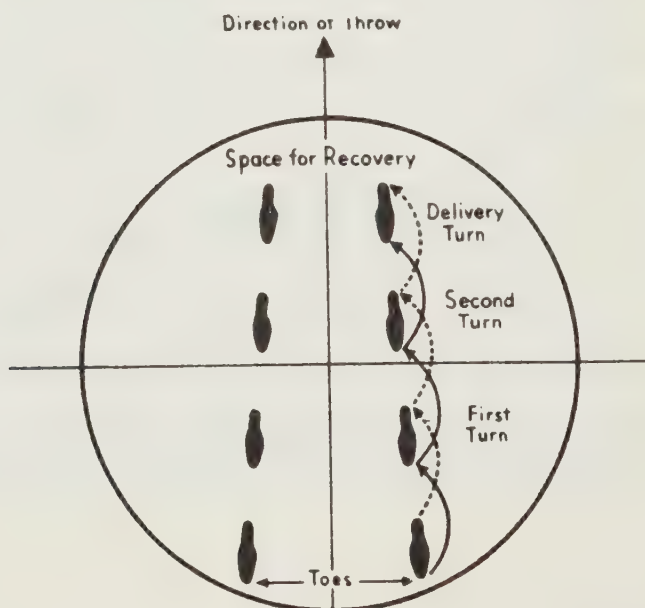
descends to the right of the body. As the speed of the hammer increases with each swing, the arms become straighter. Relaxation is important in the preliminary swings.

The number of preliminary swings varies, but each must be taken at increasing speed, until the athlete has built up the proper momentum to begin his turn.

## The Turns

The first turn is begun by a pivot on the outside of the heel of the left foot. The pivot starts as the hammer swings through its low point and begins the next full circle. The thrower's head and eyes face toward the hammer throughout the turn, and in the early part of the turn the hammer leads slightly while the body follows. As the pivot continues the right foot, which has been kept in contact with the ground as long as possible, is brought up and around the left leg very quickly. It then contacts the ground with a 'toe-to-heel' action, in contrast with the left foot, which begins the pivot on the heel and finishes on the ball of the foot as the right leg is brought round.

The pivot is not taken in one spot, but across the circle in the direction of the throw. At the end of his first





turn, the athlete should be in his beginning position, but about two feet nearer the front of the circle.

An essential point to note in the turn is that while the body FOLLOWS the hammer into each turn, it LEADS coming out of each turn. It has caught up to and passed the hammer between the time the right foot leaves the ground and the time it touches again.

The second turn is taken in exactly the same manner as the first, but at a greater speed. Again the athlete should advance about two feet across the circle. The third turn is a repetition of the first two, but at still greater speed. In it, the right foot must be brought around very fast indeed if the body is to lead the hammer properly at the end of the turn, as it must in order to contribute anything to the final throw.

Throughout all three turns, the arms should be straight, in order to carry the hammer head through the largest circle possible. There is a noticeable 'break' between each turn, due to the fact that the body, at the beginning of each turn, exerts force which adds to the speed of the hammer, and while so doing lets the hammer get ahead in the turn, then catches up and passes the hammer during the turn. The length of this 'break' decreases sharply with each successive turn, as the speed builds up.

The number of turns that should be taken depends upon the athlete's ability to control the hammer, and to stay in the circle. The more turns, the greater the momentum, and hence the farther the hammer should travel. Most good throwers use three turns but athletes who have difficulty controlling three may get better results with only two turns; the thrower who masters four turns instead of three, and still keeps complete control, is likely to be the next world's champion.

## The Throw

As previously noted, the body must lead the hammer coming out of the last turn. As the hammer swings across the body and begins the upswing, the body weight is over the left leg. The thrower's back is to the direction of the throw. From this position, the whole body lifts vigorously on the upswing of the hammer, giving final impetus to the missile as it is released over and behind the left shoulder. At the instant of release, the athlete's back is still to the direction of the throw. The hammer is released at about a  $45^{\circ}$  angle to the ground.

## The Recovery

AFTER the hammer has left the hand, the athlete must recover balance either by reversing his foot position as the body turns to follow the hammer, or by a pivot on the left foot. If he has put all his force into the throw, he must perform this recovery action to keep from falling, and to stay within the circle.

## Mechanical Principles Which Apply to Hammer Throwing

1. The greater the *controlled* momentum that can be built up in the preliminary swings and turns, the greater speed the hammer will have at the instant of release, and the farther it should go.
2. If the three turns are to make their maximum contribution to the throw, the centre of gravity of the "hammer plus thrower" should move straight across the circle in the direction of the throw.
3. In both the preliminary swings and the turns, the straighter the arms, the larger the circle described by the head of the hammer, and the greater its speed.



## Personal Factors

Other things being equal, the long-armed athlete has a mechanical advantage in that the hammer travels in a larger circle, and hence at a greater speed.

Size is more important in hammer throwing than in any other event. During the preliminary swings and turns, the body weight must counterbalance the natural tendency of the hammer to keep going in a straight line instead of in a circle. With a very light thrower, and a hammer travelling at high speed, it would be a question of which was going to throw which where. The heavy athlete has a lesser problem, which is one reason why most good hammer throwers tip the scales at better than 200 lbs.

Size alone is not enough, however. The hammer thrower must also be FAST, for the faster he can make the hammer travel before he lets it go, the farther it will travel in flight. He must possess excellent co-ordination and rhythm, plus a fine sense of balance, if he is to make three turns at high speed, and stay within the seven foot throwing circle.

There is no other event in the whole program of track and field athletics that demands so high a degree of strength and skill as does the hammer throw.

## If You Have Never Thrown the Hammer Before, Begin By:

1. Practising easy swings. Gripping the hammer handle in the prescribed manner, stand with your back in the direction of the throw, and swing the hammer without throwing it. Do not try to build too much speed, but concentrate on mastering a relaxed, full swing at moderate speed.
2. Practising standing throws. Try now to build up more speed for the throw. You should be able to obtain maximum speed in from four to six swings. On the last swing, release the hammer over the left shoulder

as described earlier. Learn to put your weight into the throw, and not just to rely upon the speed of your swing.

3. Practising throws from a single turn. While the "whole method" of learning is recognized as being superior for most skills, the beginning thrower is likely to encounter difficulty in learning this first turn. Hence it is advisable to learn the single turn as a first step.
4. Adding other turns as you are able to do so. Most throwers will do well to proceed 'one step at a time', i.e., to master two turns before going on to three. It is important, however, to confine the distance covered in each turn to that which will eventually be allowed when three turns are used. The athlete who uses up the whole circle in one or two turns will have to 'unlearn' that foot pattern in order to add another turn.

## Training is Imperative

Because of the exceptional demands hammer throwing makes upon the athlete, constant practise is needed, and champion hammer throwers have to keep in training all year round. Hammer throwing is a 'form' event, and to master proper form, the hammer must be thrown thousands upon thousands of times.

If it is not possible to practise throwing throughout the year, it is strongly recommended that the athlete follow a regular program of body building and conditioning in the off season. Sprinting, rope climbing, push ups and other conditioning exercises, and especially weight training (i.e., training with bar bells or other weights), should be included in the off season program.

Prior to the competitive season, early practice in throwing should emphasize the development of good form. Not until after two or three weeks of training should an athlete throw for distance. In all practise sessions, whether early



or in mid season, care should be taken to warm up gradually.

Conditioning exercises should form a part of each training session. These exercises should be designed to build up the strength and flexibility needed for this specific event.

## **Suggested Weekly Practise Schedule for the Competitive Season**

### **Monday:**

1. Jog an easy 440 yards to loosen up.
2. Do fifteen minutes of strenuous conditioning exercises.
3. Practise swinging the hammer without throwing, then work for ten or fifteen minutes on turns, again without releasing the hammer. The number of turns practised will depend upon your stage of learning.
4. Take fifteen to twenty throws. Do not hold back, but concentrate on form and throw at less than full effort.
5. Practise sprint starts, and do three or four short sprints (40 yards) at top speed.
6. Jog an easy 440 yards, then shower.

### **Tuesday:**

- 1 and 2 as on Monday.
3. Practise throwing the hammer, using whatever number of turns you are working on. Take twenty to thirty throws at less than full effort, concentrating on form.
4. Take half a dozen measured throws at full effort.
5. Do three successive wind sprints (one wind sprint consists of a 60 yard walk, followed by a 60 yard run, followed by a 60 yard sprint).
6. Jog an easy 440 yards, then shower.

**Wednesday:**

- 1, 2, 3 and 4 as on Tuesday.
5. Practise sprint starts, and do three or four forty yard sprints at top speed.
6. Jog an easy 440 yards, then shower.

**Thursday:**

Repeat Tuesday's program.

**Friday:**

Rest or take a light workout, consisting of jogging and conditioning exercises.

No throwing.

**Saturday:**

Day of the meet. Be at the meet in time to have a thorough warm up before the event, including jogging, conditioning exercises, and several easy and two or three full effort throws. These should be taken as close as possible to the event, so that you will be ready to give your best or close to your best effort on your first throw.

Athletes who are obliged to limit their practise schedule to three days a week should space practises, if possible, a day apart. It is suggested that the plan outlined for Monday, Tuesday and Wednesday be used on the first, second, and third days respectively.

It is impossible to suggest a practise schedule that will suit every athlete at each stage of his training. The above schedule should be varied to provide for individual needs. Some athletes will require more intensive work, others will require less.



## Conditioning Exercises for Hammer Throwers

1. Run on the spot, raising the knees as high as possible. Alternate between easy running and top speed.
2. From a standing position, feet comfortably apart, rise to full stretch position on the toes, then, with back straight, bend a full squat position. Reverse the movements to original position, and repeat the whole sequence thirty or more times. To increase the difficulty of this exercise, use weights, e.g., hold one or more 16 lb. shots in the hands, or strap a knapsack of sand to your shoulders.
3. From a full squat position, leap as high as you can in the air, with body fully stretched. On landing, resume squat position, and repeat the whole action ten or more times in succession. Again weights may be used to increase the intensity of the exercise.
4. From a back lying position, sit up to touch, in sequence, the knees, then the toes. Do this in fast tempo, to a count of four—Up—Touch knees—Touch toes--and back.  
Keep it up for a minute or more.
5. From a back lying position, raise the feet six inches from the ground, keeping the knees straight, and hold for 30 to 60 seconds. Vary this exercise by keeping one foot six inches from the ground, while the other leg is slowly raised to a vertical position, then back. Alternate several times.
6. Squeeze a sponge rubber ball the size of a tennis ball as hard as possible with one hand. Repeat rapidly until wrist is tired, then do the same with the other hand. Continue for three minutes, alternating hands each time one hand tires.
7. From a standing position, bend knees to a full squat. Placing the hands on the ground, with a jump extend legs fully backward so that body is in 'push up' position. Lower the body for the first push up, and

at the same time raise the left leg as high as you can, keeping the knee straight, then lower the leg as you push up. On the next push up, raise and lower the right leg in the same manner. On completing the second push up, jump to squat position, and stand up again. Repeat the whole series ten to twenty times.

8. Do fifteen to thirty successive push ups, keeping the body straight from head to toe throughout the exercise. To increase the difficulty of this exercise, do finger push ups, in which the weight is supported on the thumb and fingers instead of on the palms. As a further progression, begin with the weight on the palms, but continue the push up each time until the weight is supported on the fingers and thumb.
9. Clasp the hands behind the head and with feet astride, bend forward from the waist and circle the trunk several times in a clockwise direction, then in a counter clockwise direction. Repeat several times.
10. Substitute a heavier head, weighing eighteen to twenty pounds, for the official head of the hammer. Practise swings and standing throws with this heavier implement before working out with the regular sixteen pound weight. This exercise should not be done in the first three or four weeks of training, but is valuable later in 'overloading' and strengthening the throwing muscles.

## Diet

Wholesome, well-balanced meals which follow Canada's Food Rules are essential. Food fads and fancies should be avoided as should greasy foods, experimentation with unfamiliar dishes and foods that disagree with the individual. Since champion athletes come from countries whose customary diets differ widely, athletic success can scarcely be attributed to eating specific foods. Care should be taken to chew food well and to see that meals are scheduled three or four hours prior to participation in competition.



## **Sleep**

Eight to nine hours sleep in a cool room on a firm mattress every night is recommended generally. "Sleeping in" the next day does not make up for sleep lost the previous night and tends to upset the regular schedule.

## **Stimulants**

Available records fail to support the idea that stimulants and drugs improve performance. On the contrary, various studies show that even the use of tobacco and alcohol make top physical performance unobtainable.

## **Emotional Stability**

A desirable emotional approach to competition is frequently the determining factor in achieving success. Enthusiasm, confidence, perseverance and patience are essential—you can't win without them. Self confidence is developed through efficient coaching and adequate competition.

"Staleness", so often attributed to physical causes, is more likely to be the result of emotional "upset", "let down" or "fatigue" growing out of discouragement or boredom. A complete rest, light training or a change of activity are effective remedies.

## **Medical Check-up**

It is always advisable to have a medical examination prior to the intensive training and competitive season.

# CLASSIFICATION FOR COMPETITION

Sanctioned by the Amateur Athletic Union of Canada

**JUNIORS** are boys under twenty years of age, i.e., boys who have not reached their twentieth birthday.

**JUVENILES** are boys under eighteen years of age, i.e., boys who have not reached their eighteenth birthday.

**MIDGETS** are boys under sixteen years of age, i.e., boys who have not reached their sixteenth birthday.

Note: (a) The age classification shall be as of the date of competition of the first day of a scheduled two-day meet.

(b) Midget, juvenile and junior athletes may compete in one age class only at an A.A.U. sanctioned meet in track events. A midget may not compete above the juvenile class in track events. The only exception to the above rule is that a midget or juvenile may advance one class for a relay race, provided that he has not competed on a relay team in his own class.

(c) Midget, juvenile and junior athletes may compete in a class above their respective classes in field events where no field event is scheduled in their class.

**SCHOOL BOYS** are boys under twenty years of age, i.e., boys who have not reached their twentieth birthday on the day of the meet. School boys, as defined above must have been regularly enrolled for a period of six months and be in attendance at an authorized public, high or preparatory school.

# RESOURCE MATERIALS

Because it is so uncommon an event, for safety reasons mentioned earlier in this pamphlet, there is very little available material on the Hammer Throw, either in print or on film.

## Publications

**"Championship Technique in Track and Field"** — by Dean B. Cromwell — pp. 268-275 — published by McGraw-Hill Book Co., 253 Spadina Road, Toronto — 1953. Price \$6.00.

**"Field Techniques Illustrated"** — by D. Canham and T. Micoleau — pp. 71-80 — published by A.S. Barnes Co. (Canadian Agent — Copp Clark Co. Ltd., 517 Wellington St., Toronto) — 1952. Price \$1.75.

**\*"Hammer Throwing"** — by J. LeMasurier (A.A.A. National Coach). Instructional booklet produced by the Amateur Athletic Association, Crown Chambers, Chancery Lane, London, W.C.2. Price 21/—net.

## Visual Aids

### Films:

**Fundamentals of Track and Field**—sound, B. & W., 25 min. produced by Encyclopaedia Britannica 1954. Outlines Track and Field training procedures. Brutus Hamilton, U.S.A. Olympic Team Chief Coach at Helsinki in 1952 describes proper techniques for seven Track and Field events. The performer is Bob Mathias, Olympic Champion. He demonstrates the Sprint, Broad Jump, Shot Put, High Jump, Discus and Pole Vault. The last sequence shows him in competition in the High Hurdles then

\* This book is highly recommended as a reference for both beginners and advanced throwers. It is complete, clearly written and well illustrated.



illustrates how he practices and exercises for hurdle races. Commentary is clear and instructive. Time-stop and slow motion photography are used throughout to analyse movements and to bring out the fine points of of Mathias' form. Available from the Canadian Film Institute, 1762 Carling Ave., Ottawa, on rental basis.

### **Filmstrips:**

**Beginning Track and Field**—Instructional, silent, colour—produced by the Athletic Institute, 209 S. State St., Chicago 4, Illinois. Consisting of 9 events—Sprinting; Hurdling; Middle Distance; Distance Relay Running; Running Broad Jump; High Jump; Pole Vault; Discus Throw; Shot Put; Javelin Throw. Available on loan from Fitness and Recreation Consultant Services, Department National Health and Welfare, on "Preview with a view to purchase" basis only.

### **Loop Films:**

Educational Productions Ltd., 17 Denbigh Street, London, S.W.1, offer a coaching unit of two loop films or the Hammer Throw under their Series A.6.

**Olympic Stars 1952**—Instructional, silent, B. & W., 16 mm., produced by Scottish Instructional Films, Eaglesham, Nr. Glasgow, Scotland. Series of 6—1. Spring Start; 2. Sprint Starting and Running (McKenley); 3. Spring Starting and Running (MacDonald); 4. Hurdles (Dillard); 5. Hurdles (Davis, U.S.A.); 6. Long Jump (Gourdine). Shows technique by means of shots of Olympic champions in training and in performance. Available on loan from Fitness and Recreation Consultant Services, Department National Health and Welfare, on "preview with a view to purchase" basis only.

Provincial Fitness and Recreation Departments have a number of visual aids dealing with Track and Field Athletics, as well as duplicated and printed materials, and other services.

The Department of National Health and Welfare maintains a one print preview library of Fitness and Recreation instructional films. A consolidated catalogue describing these, entitled "Here's How To Do It 1960" has been deposited with Public Libraries, and with Provincial Fitness and Recreation Offices. Films listed therein are on deposit with the Canadian Film Institute, 1762 Carling Ave., Ottawa, and are available directly from them for a nominal service charge. Filmstrips and Loop Films listed therein are held by the Fitness and Recreation Consultant Services, Department of National Health and Welfare and are available for screening only on "preview with a view to purchase" basis.

## WHO'S WHO TO HELP YOU

Additional information may be obtained from: Provincial Fitness and Recreation Offices in the province in which you are located.

The Secretary,  
Amateur Athletic Union of Canada,  
621 Strathcona Street,  
Winnipeg 10, Manitoba

Fitness and Recreation Consultant Services,  
Department of National Health and Welfare  
Jackson Bldg., Ottawa

Recreation Branch,  
Royal Canadian Air Force,  
Ottawa

Amendments to the Track and Field Rule Book may be obtained from the Queen's Printer for \$0.25.

Track and Field Records including World, Olympic, British Empire and Commonwealth, etc., revised to the end of 1958 may be obtained from:

Major John W. Davies,  
Chairman, Records Committee,  
A.A.U. of C.,  
3515 Minto Ave., Montreal 28, P.Q.

The price is \$1.00.



Price 15 cents  
Available from the Queen's Printer  
Ottawa, Canada



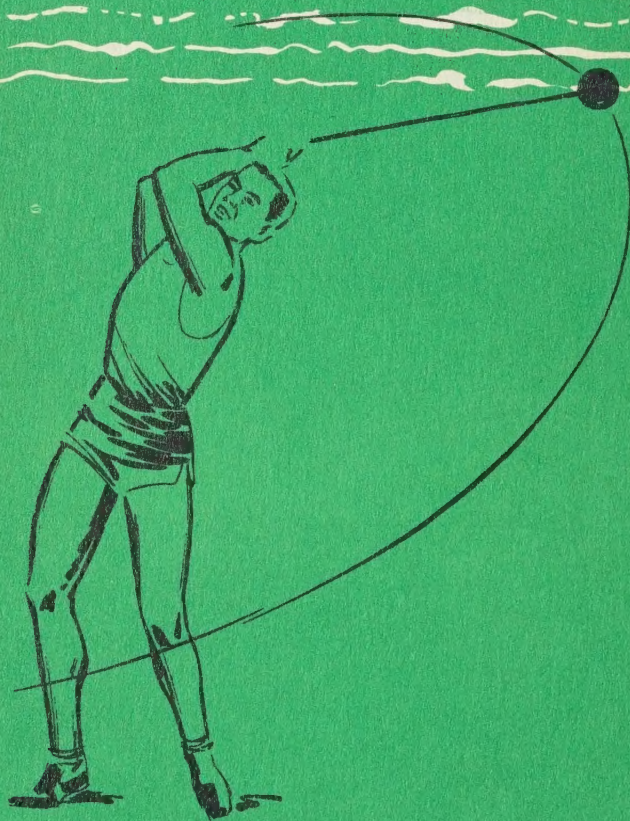
# ENDORSEMENTS

AMATEUR ATHLETIC UNION OF CANADA

BRITISH EMPIRE AND COMMONWEALTH GAMES ASSOCIATION

CANADIAN OLYMPIC ASSOCIATION

CANADIAN SPORTS ADVISORY COUNCIL



DEPARTMENT OF NATIONAL HEALTH AND WELFARE  
**OTTAWA**



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